REMARKS/ARGUMENTS

Examiner Interview / Discussion

Telephonic interview/discussions were conducted with the Examiner, Joshua Schneider, by the Applicants' representative, Rabindranath Dutta. Reg. No. 51,010 during the week of July 30, 2007 – Aug. 3, 2007, during which the Examiner indicated that the 35 U.S.C. 101 rejection of rejected claims 7, 11 would be withdrawn by the Examiner. Although the Examiner had not indicated it in the Office Action, in order to expedite processing and avoid any further 35 U.S.C. 101 based rejections it was suggested that the article of manufacture claims be amended to include a computer readable storage medium. Other issues of patentability of the claims were also discussed.

The arguments and amendments submitted herein incorporate the patentability arguments and amendments Applicants discussed/communicated with the Examiner. Applicants submit that the amendments and arguments presented herein make the substance of the interview(s) of record to comply with 37 CFR 1.133. If the Examiner believe that further information on the interview(s) needs to be made of record to comply with the requirements, Applicants request the Examiner to identify such further information.

Claims are amended for expeditious prosecution

This amendment is being filed in response to the office action dated April 3, 2007. In the current amendment, Applicants have amended at least the independent claims 21 and 27 and certain dependent claims. Applicants are not conceding in this Application that these and/or other amended and/or cancelled claims are not patentable over the art cited by the Examiner and/or for reasons provided by the Examiner, as the present claim amendments and/or cancellations are only for facilitating expeditious prosecution of the application. Applicants respectfully reserve the right to pursue these and other claims, including the original claims, in one or more continuations and/or divisional patent applications

Amendments to the Specification

Reference numeral 416 has been changed to reference numeral 418 in paragraph 46 of the specification to conform to FIG. 4 of the drawings. No new matter has been added.

Claim amendments made on the basis of Examiner interview and 35 U.S.C. 101 based rejections

Claims 21-30 have been amended to include computer readable storage medium as per discussions with the Examiner.

Regarding rejection of claims 7 and 10 applicants submit that operations are performed at the storage unit and thus the operations such as determining are not mental steps, and applicants traverse the rejection of claim 7 and 10 under 35 U.S.C. 101. The Examiner has during discussions with the Applicants agreed to withdraw the 35 U.S.C. 101 based rejections made in the Office Action.

Claim rejections under 35 U.S.C. 102

Claims 1, 2, 4-8, 10-12, 14-18, 20-22, 24-28, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohno (US 7,051,121).

Independent claims 1, 11, 21

Independent claims 1, 11, 21 require:

receiving, at a first storage unit, an I/O command from a host;

generating an identifier that identifies a destination to which the I/O command is to be transmitted from the first storage unit;

augmenting the I/O command with the generated identifier at the first storage unit; and

transmitting the augmented I/O command.

Applicants traverse the rejection of claims 1, 11, 21 under 35 U.S.C. 102(e) as being anticipated by Ohno.

The cited Ohno (col. 4, lines 56-58) discusses that the "first storage control apparatus functions as a relay apparatus between the host computer and the second storage control apparatus." In the cited Ohno, the command received from the host at the host at the first storage control apparatus is relayed by the first storage control apparatus to the second storage control apparatus. The cited Ohno discusses that the command and data are changed by the first storage control unit in a format or protocol of the second storage control unit (col. 4, lines 64-67).

The claims require the first storage unit to perform the following:

1) generate the identifier that identifies a destination of the I/O command;

2) augment the I/O command with the identifier;

and nowhere does the cited Ohno teach or disclose these claim requirements, because in the cited Ohno there is no teaching or disclosure of augmenting the I/O command with the generated identifier (i.e., adding the generated identifier to the I/O command). While the cited Ohno discusses modifying a command, there is no discussion that the modification of the I/O command in the cited Ohno augments the I/O command with an identifier that identifies a destination as required by the claims.

Should the Examiner continue to reject the claims, the Examiner is requested to indicate which elements of the cited Ohno correspond to the following of the claim requirements
1) identifier that identifies a destination;
2) augmentation of the I/O command with the identifier that identifies a destination.

For the above reasons claims 1, 11, 21 are patentable over the cited art.

Independent claims 7, 17, 27

Independent claims 7, 17, 27 require:

receiving, at a storage unit, an I/O command, wherein the storage unit is associated with a storage unit identifier;

determining, at the storage unit, whether the I/O command is associated with an identifier that identifies a destination for which the I/O command is intended, wherein the I/O command has been augmented with the identifier by another storage unit from which the storage unit received the I/O command; and

determining, at the storage unit, whether the identifier is the same as the storage unit identifier, in response to determining that the identifier associated with the I/O command identifies the destination for which the I/O command is intended.

Applicants traverse the rejection of claims 7, 17, 27 under 35 U.S.C. 102(e) as being anticipated by Ohno. The newly added claim requirements of independent claims 7, 17, 27 may be found in at least original claim 1, and nowhere does the cited Ohno teach or disclose the newly added claim requirements that the I/O command has been augmented with the identifier by another storage unit from which the storage unit received the I/O command.

The cited Ohno (col. 4, lines 56-58) discusses that the "first storage control apparatus functions as a relay apparatus between the host computer and the second storage control apparatus." In the cited Ohno, the command received from the host at the host at the first storage

control apparatus is relayed by the first storage control apparatus to the second storage control apparatus. The cited Ohno discusses that the command and data is changed by the first storage control unit in a format or protocol of the second storage control unit (col. 4, lines 64-67).

The claims require the another storage unit from which the storage unit received the I/O command to augment the identifier associated with the I/O command, and nowhere does the cited Ohno (col. 4, lines 44-50, col. 6, lines 19-35) teach or disclose these claim requirements. In the cited Ohno there is no teaching or disclosure of augmenting, i.e., adding to the I/O command the identifier. While the cited Ohno discusses modifying a command, there is no discussion that the modification of the I/O command in the cited Ohno augments the I/O command with the identifier as required by the claims.

For the above reasons claims 7, 17, 27 are patentable over the cited art.

Dependent claims 2-6, 8-10, 12-16, 18-20, 22-26, 28-30

The Examiner has also rejected pending claims 2-6, 8-10, 12-16, 18-20, 22-26, 28-30 that depend on the pending independent claims 1, 7, 11, 17, 21, or 27. Applicants submit that these claims are patentable over the cited art because they depend from claims 1, 7, 11, 17, 21,or 27.which are patentable over the cited art for the reason discussed above, and because the combination of the limitations in the dependent claims 2-6, 8-10, 12-16, 18-20, 22-26, 28-30 and the base and intervening claims from which they depend provide further grounds of distinction over the cited art.

Dependent claims 4, 14, 24

Dependent claims 4, 14, 24 depend on claims 1, 11, 21 respectively, wherein the second storage unit is a second storage control unit, and wherein generating the identifier further comprises:

associating with the identifier, a World Wide Node Name of the second storage control unit;

associating with the identifier, a World Wide Port Name of a port of a fibre channel adapter coupled to the second storage control unit, wherein the port is used for communications; and

associating with the identifier, a storage subsystem identification of a storage subsystem coupled to the second storage control unit.

The cited Ohno (col. 6, lines 41-44) discusses enforcing access limits by managing the combinations of port number of switch numbers of fiber channel switches. The cited Ohno (col. 6, lines 1-35) further discusses logic volume identification for enforcing access limits

The claims require associating with the identifier:

1) a World Wide Node Name of the second storage control unit;

2) a World Wide Port Name of a port of a fibre channel adapter coupled to the second storage control unit,

3) a storage subsystem identification of a storage subsystem coupled to the second storage control unit, and these requirements are not taught or disclosed by the cited Ohno. Should the Examiner continue to reject the claims, the Examiner is requested to indicate which element of the cited Ohno corresponds to the identifier of the claim requirements, and where the cited Ohno discusses associating with the identifier:

1) a World Wide Node Name of the second storage control unit;

2) a World Wide Port Name of a port of a fibre channel adapter coupled to the second storage control unit,

3) a storage subsystem identification of a storage subsystem coupled to the second storage control unit.

For the above reasons claims 4, 14, 24 are patentable over the cited art.

Claims 10, 20, 30

Claims 10, 20, 30 depend on claims 7, 17, 27, wherein the storage unit is a secondary storage control unit, and wherein the identifier further comprises:

a World Wide Node Name of the secondary storage control unit;

a World Wide Port Name of a port of a fibre channel adapter coupled to the secondary storage control unit, wherein the port is used for communications; and

a storage subsystem identification of a storage subsystem coupled to the secondary storage control unit.

The cited Ohno (col. 6, lines 41-44) discusses enforcing access limits by managing the combinations of port number of switch numbers of fiber channel switches. The cited Ohno (col. 6, lines 1-35). further discusses logic volume identification for enforcing access limits

The claims the identifier to be comprised of:

1) a World Wide Node Name of the second storage control unit;

2) a World Wide Port Name of a port of a fibre channel adapter coupled to the second storage control unit,

3) a storage subsystem identification of a storage subsystem coupled to the second storage control unit, and these requirements are not taught or disclosed by the cited Ohno, and should the Examiner continue to reject the claims, the Examiner is requested to indicate which element of the cited Ohno corresponds to the identifier of the claim requirements, and where the cited Ohno discusses that the identifier comprises:

1) a World Wide Node Name of the second storage control unit;

2) a World Wide Port Name of a port of a fibre channel adapter coupled to the second storage control unit,

3) a storage subsystem identification of a storage subsystem coupled to the second storage control unit.

For the above reasons claims 10, 20, 30 are patentable over the cited art.

Claims 5, 15, 25

Amended claims 5, 15, 25 depend on claims 4, 14, 24 respectively instead of depending on claims 1, 11, 21. The amended claims 5, 15, 25 require that the first storage unit is coupled to a first fibre channel adapter, wherein the destination is coupled to a second fibre channel adapter, wherein the first fibre channel adapter is coupled to the second fibre channel adapter via a switched fabric, and wherein the switched fabric includes a plurality of switches, and wherein a destination address of the second storage unit returned by a switch of the plurality of switches to the first storage unit is not unique.

The added new requirements that a destination address of the second storage unit returned by a switch of the plurality of switches to the first storage unit is not unique may be found in at least the first three lines of paragraph 32 of the Application.

Col. 6, lines 40-64 of the cited Ohno discusses fibre channel switches but does not teach or disclose the claim requirements that a destination address of the second storage unit returned by a switch of the plurality of switches to the first storage unit is not unique.

For the above reasons claims 5, 15, 25 are patentable over the cited art.

New claims 31, 32, 33

The requirements of new claims 31, 32, 33 may be found in at least original claim 5 and in the first three lines of paragraph 32 of the Application.

Claim rejections of claims 3, 9, 13, 19, 23, and 29 under 35 U.S.C. 103

Claims 3, 9, 13, 19, 23, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,051,121 to Ohno et al. in further view of 6,820,168 to Tanaka et al. Applicants submit that the cited Tanaka in col. 8 lines 7-24 discusses a failure of data transfer resulting in an error but does not teach or suggest the claim requirements of generating a failure, at the second storage unit, in response to determining that the generated identifier that augmented the I/O command is not the same as the second storage unit identifier.

For the above reasons claims 3, 9, 13, 19, 23, and 29 are patentable over the cited art.

Conclusion

For all the above reasons, Applicant submits that the pending claims are patentable. Should any additional fees be required beyond those paid, please charge Deposit Account No. 09-0449.

The attorney of record invites the Examiner to contact him at (310) 557-2292 if the Examiner believes such contact would advance the prosecution of the case.

Dated: August 3, 2007   By:___/Rabindranath Dutta/____

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